Impression formation and cooperative behavior.

de Bruin, E.N.M.; van Lange, P.A.M.

published in
European Journal of Social Psychology
1999

DOI (link to publisher)
10.1002/(SICI)1099-0992(199903/05)29:2/3<305::AID-EJSP929>3.0.CO;2-R

document version
Publisher's PDF, also known as Version of record

European Journal of Social Psychology
Eur. J. Soc. Psychol. **29**, 305–328 (1999)

Impression formation and cooperative behavior

ELLEN N. M. DE BRUIN*
and PAUL A. M. VAN LANGE
Free University, Amsterdam, The Netherlands

Abstract

Two studies investigated how behavioral information about the morality or intelligence of another person influences impressions, expectations of cooperative behavior, and own cooperation in a mixed-motive interdependence situation. Consistent with the morality-importance hypothesis*, results revealed that morality information influenced impressions, expectations of other's cooperative behavior, as well as own cooperation more strongly than intelligence information, and led to greater confidence in expectations and better recall. Consistent with the* negativity effect hypothesis*, negative information about morality and intelligence had more impact on impressions and interaction-relevant measures than positive information. An additional finding was that people overall expected more cooperation from others than they were willing to display themselves, and that this difference was especially pronounced for unintelligent and moral targets. Explanations and implications are discussed from a behavioral-adaptive perspective on impression formation.* Copyright © 1999 John Wiley & Sons, Ltd.

One reason that people form impressions of each other is that impressions help us to anticipate others' behavior, and to respond to it effectively. When you meet somebody for the first time, it is important to know whether or not this person will adopt a favorable, cooperative attitude toward you. Your first impression of the person helps you to answer this question, and to decide how to behave yourself. This function of impression formation is especially important if you are dependent on someone. For example, when someone is able to affect your outcomes, you will pay more attention to this person than you might have done otherwise, and you will really be motivated to form an accurate, individuated impression of him or her (e.g. Berscheid, Graziano, Monson, & Dermer, 1976; Erber & Fiske, 1984; Neuberg & Fiske, 1987; Ruscher & Fiske, 1990).

*Correspondence to: Dr Ellen De Bruin, Department of Social Psychology, Free University of Amsterdam, Van der Boechorststraat 1, 1081 BT Amsterdam, The Netherlands. e-mail: enm.de.bruin@psy.vu.nl

CCC 0046–2772/99/020305–24$17.50

Received 30 September 1996
Accepted 23 December 1997

In studies of the effects of such outcome dependency on impression formation, two aspects have received little attention. First, this research generally does not involve measures of behavior toward the person who is the object of the impression. Although it is assumed either implicitly or explicitly that outcome dependency—or its mutual form, interdependence—increases attention and accuracy motivation because 'thinking is for doing' (Fiske, 1992; see also e.g. Bruner & Tagiuri, 1954; Heider, 1958; Jones & Thibaut, 1958), it is not tested whether or how these impressions actually influence behavior. Participants in such paradigms remain 'one-way mirror observers'.

Second, studies on outcome dependency generally investigated either cooperative or competitive dependence, and neglected so-called *mixed-motive* situations, in which the needs and interests of the persons concerned partly correspond and partly conflict (see Fiske & Neuberg, 1990; an exception, however, is found in De Dreu, Yzerbyt & Leyens, 1995). Such situations are important not only because they are quite common in everyday life, but also because they make that one's impression of the other person really matters. Because these situations provide no clues as to whether to view the other as a 'partner' or as an 'opponent', it becomes especially useful to form an impression of the other person and of the behavior one may expect from him or her, in order to decide how to behave toward this person. We chose to confine the current research to a specific mixed-motive interdependence context: a two-person social dilemma. This is an interdependence situation in which noncooperation results in greater outcomes for self than cooperation, irrespective of the other's behavior, but in which mutual cooperation yields greater outcomes for both persons than does mutual noncooperative behavior.

AN INTERDEPENDENCE ANALYSIS OF EVALUATIVE PERSON INFORMATION

In the current research, we investigated how people make use of information about another person in a mixed-motive interdependence situation, to form impressions, infer cooperative or non-cooperative intentions of interdependent others, and decide on one's own cooperative or non-cooperative behavior. In two experiments, we provided people with information about past behaviors of interdependent others, systematically varying its descriptive meaning (whether the information is about morality or intelligence) and its evaluative meaning (whether the information is positive, negative, or neutral), Our purpose was to examine the relative importance of morality versus intelligence information, and of positive versus negative information.

Morality versus Intelligence Information

People tend to organize person impressions along two evaluative dimensions: Social desirability and intellectual desirability (Rosenberg, Nelson, & Vivekananthan, 1968). The first of these dimensions is represented by person characteristics denoting a tendency to be good or bad to other people (see Peeters & Czapinski's, 1990, concept

of *other-profitability*), and includes traits such as '(dis)honest' and '(in)considerate'. We operationalized this dimension as *morality*. The second dimension is represented by person characteristics denoting abilities and capacities (or efficacy in attaining one's goals; cf. Peeters & Czapinski's, 1990, concept of *self-profitability*), and includes traits such as '(un)skilful' and '(un)intelligent'. This dimension was operationalized as *intelligence*.

In a mixed-motive interdependence situation, we expect morality information to be more important for a social perceiver than intelligence information (*morality-importance hypothesis*). As a social dilemma involves a decision between some gain for self at a larger cost for another person, an important question is whether you can trust the other person to cooperate (e.g. Deutsch, 1973; cf. Apfelbaum, 1974). In this respect, morality is much more diagnostic than intelligence. As morality can be defined as a sense of obligation toward others and the relative absence of harming others (Deutsch, 1982; Van Lange & Kuhlman, 1994), one can trust moral persons to be cooperative (and immoral persons to be noncooperative). Intelligence information, on the other hand, is ambiguous in this respect. We can only trust that a smart person will cooperate, if we assume that this person endorses collective rationality (trying to get the best outcomes for all) and not individual rationality (trying to get the best outcomes for the self; cf. Van Lange, Liebrand & Kuhlman, 1990; Van Lange & Liebrand, 1991a; Van Vugt, Van Lange, & Meertens, 1996). On the basis of intelligence information alone, we cannot reliably infer the basis for rationality (individual or collective) that a person endorses.

Another line of reasoning supporting the morality-importance hypothesis relies on the other-profitable nature of morality and the self-profitability of intelligence. In an interaction situation, a social perceiver will readily interpret the general meaning of morality information, 'good or bad for other people', as 'good or bad for me'. However, the consequences of another person's intelligence are less clear. If someone is intelligent, and thus able to be 'good for him or herself' (i.e. self-profitability), a social perceiver still does not know whether he or she will find cooperation or noncooperation the best way to achieve good outcomes.

In sum, we predicted that information about the morality of an interdependent other would influence impressions and interaction-relevant measures (i.e. expected and own cooperation) more strongly than would intelligence information. We expected that intelligence effects would have the same direction as morality effects. Because of the social costs associated with noncooperation, we expected that most people would relate intelligence to cooperation. However, according to the above analysis, we expected these intelligence effects to be less pronounced.

Positive versus Negative Information

Generally, people assign greater attention and weight to negative than to positive information. Originally, this *negativity effect* was explained by considering the relatively benign global beliefs people hold about their social environment as a background in which negative information stands out as the 'figure' (Fiske, 1980; Kanouse & Hanson, 1972). Other cognitive explanations stress the role of terms of behavior-trait schemata (Reeder & Brewer, 1979), or diagnosticity of informational cues (Skowronski & Carlston, 1987, 1989)—for example, immoral behaviors are

more diagnostic in determining the morality of a person than are moral behaviors, because only immoral people are assumed to be willing to act immorally. More recently, motivational explanations have been advanced that consider attending to negative information as functional because it prepares people to respond effectively to threatening circumstances, like, for example, negative outcomes caused by an immoral person (for further evidence and reasoning, see Peeters & Czapinski, 1990; Pratto & John, 1991; Reeder, Pryor, & Wojciszke, 1992; Taylor, 1991; Vonk & Van Knippenberg, 1994; Wojciszke, Brycz, & Borkenau, 1993).

The current research seeks to extend prior research on evaluative asymmetries, advancing the prediction that negativity effects for morality are revealed not only in impressions but also in interaction-relevant measures (*negativity effect hypothesis*). Specifically, we predicted that negative morality information about an interdependent other would exert greater influence on the formation of global evaluative impressions, expectations of the other's cooperation, and own cooperative behavior, than positive morality information. For intelligence information, we advanced no formal predictions. Although positivity effects are sometimes found for intelligence (e.g. Reeder & Fulks, 1980), it may also be argued that in an actual interaction context, attending to negative intelligence information is functional, because unintelligent people may be perceived as unpredictable, and hence as providing a risky, dangerous environment.

STUDY 1

Participants were paired with a number of (fictitious) other persons successively, who were described by only one behavioral item that was either moral, immoral, intelligent, unintelligent, or neutral (i.e. not related to either morality or intelligence). The neutral targets served as comparisons for both morality and intelligence targets, and enabled us to test for evaluative asymmetries. Participants engaged in a social dilemma task with these targets. Dependent variables were (1) global impressions of the target person, (2) degree of cooperation expected from the other person, (3) confidence in expectations, (4) own degree of cooperation, and (5) free recall of behavioral information.

We advanced two sets of hypotheses. First, based on the *morality-importance hypothesis*, we predicted that effects of morality information (moral versus immoral targets[1]) on global evaluative impressions, expected cooperation, and own cooperation would be more pronounced overall than effects of intelligence information (intelligent versus unintelligent targets). Also, we predicted more confidence expressed in expectations based on morality information rather than intelligence information, and better recall of morality behaviors versus intelligence behaviors.

Second, we predicted that favorability of global impressions and levels of expected and own cooperation would decrease for targets described by more negative behavior for both evaluative dimensions. For morality, based on the *negativity effect hypothesis*, we predicted the differences between immoral and neutral targets to be more

[1]For reasons of efficiency, we will refer to targets described by moral (immoral, etc.) behavior as 'moral (immoral, etc.) targets' throughout the text.

pronounced than the differences between neutral and moral targets. We did not advance a formal prediction regarding negativity or positivity effects for intelligence.

Finally, in order to examine the interactional consequences of the information at another level, we explored whether differences between cooperation expected from the target and own cooperation varied with target type.

Method

Overview

The experiment was run self-paced on personal computers in individual cubicles. First, the social dilemma task was explained. Participants then engaged in this two-person task with a number of (fictitious) target persons successively, each described by a moral, immoral, intelligent, unintelligent or neutral behavioral description. After a filler task, participants were asked to write down all behaviors they could recall on a sheet of paper, Finally, participants were debriefed and paid for participation.

Participants and Design

A total of 125 students at the Free University (81 women, 44 men), recruited by means of an announcement in the university newspaper, participated in this study. The within-participants design included morality of other (moral versus neutral versus immoral) and intelligence of other (intelligent versus neutral versus unintelligent) as within-participant factors.

Procedure

The social dilemma task Participants were told that the study was a decision-making task involving choices between options that would affect the number of points they would get and the number of points that other persons would get. They were told that for every choice they made, they would be paired with another person, about whom they would receive some information before they had to make their choices. They were not told with how many persons they would be paired. The social dilemma task was adopted from prior research (Van Lange & Kuhlman, 1994; Van Lange & Liebrand, 1991a,b). Participants were told that upon each new pairing with a person, this person would have four yellow points, each of which was worth 50 Dutch cents to him or her, but worth 100 Dutch cents to the participant. They themselves would have four blue points upon each new pairing, each worth 50 Dutch cents to the participant, but worth 100 Dutch cents to the other person. Participants were told that although the points represented money, the study would not involve additional monetary payoffs. They were told that their task was to decide how many, points—none, one, two, three, or four—they would give to the other person, and that the other person would decide how many points he or she would give to them. It was explained that every point transferred results in a 50 cent loss for the giver and a 100 cent gain for the receiver. A few calculation examples followed, and participants were provided with a

table containing the 5×5 payoff matrix for the task, displaying the outcomes for both themselves and the other person for all possible combinations of own and other's choices. Participants could consult this table throughout the experiment. Additionally, a 10-item questionnaire to check participants' comprehension of the task was administered, the results of which showed that all participants comprehended the task structure. Following explanation and a comprehension check, it was repeated that upon each pairing with a new person, the participant would again have four blue points, and the other person four yellow points.

Half of the participants first engaged in the social dilemma task with all targets successively, and thereafter rated their global impression of all targets successively. The other half rated their global impression of a target, engaged in the social dilemma task with this target, and then went on to the next target. Preliminary analyses showed no consistent pattern of effects for order, so this variable will not be further discussed.

Manipulation of morality and intelligence Participants were told that they would receive information about recent behavior of the persons with whom they would be paired, by noting that such information may facilitate decision making;[2] otherwise they would know nothing about the other persons. They were also told that these persons would not receive any information about the participant.[3] The behavioral descriptions were selected from a *pretest study*, in which 50 students rated 73 descriptions of approximately equal lengths. Half of the students first rated the morality of all behaviors (-4 = very immoral, $+4$ = very moral), and then their diagnosticity for morality (0 = says very little about the morality of the person, 8 = says very much about the morality of the person). The other half rated the intelligence (-4 = very unintelligent, $+4$ = very intelligent) and the diagnosticity for intelligence (0 = says very little about the intelligence of the person, 8 = says very much about the intelligence of the person) of the behaviors. Pretest participants were told that all behaviors had been observed among different persons. The descriptions were presented in two random orders. Counterbalanced with order, the behaviors rated by half of the pretest participants were displayed by male actors. The other half rated the same behaviors displayed by female actors. Order and gender of actor had no effects on the pretest ratings.

In order to manipulate morality and intelligence as independently as possible, we selected moral items scoring $+2.50$ or higher on morality, 6.00 or higher on diagnosticity for morality, and scoring at least one scale point lower on intelligence and diagnosticity for intelligence, respectively (all these differences were significant at $p < 0.05$). Immoral items scored -2.50 or lower on morality, 6.00 or higher on diagnosticity for morality, and at least one scale point higher and one scale point lower on intelligence and diagnosticity for intelligence, respectively. Intelligent and unintelligent items were selected using parallel criteria. Finally, we selected neutral

[2]We agree with an anonymous reviewer that telling the participants that the information they received would 'facilitate decision making' might conjure up demand characteristics, in that respondents might come to see the information as relevant and applicable to the interaction context. However, this procedure does not in any way imply that morality information is more relevant and applicable to the interaction context than intelligence information.

[3]We did not include a check of potential suspicion of the procedure, but upon debriefing, several participants expressed their surprise that the 'other persons' had not been real persons. We think that this is significant, because in our experience, participants are generally inclined to display hindsight bias and say that they 'knew it all along'.

items scoring between −1.50 and + 1.50 on both morality and intelligence and less than 4.00 on both diagnosticity scales, and not differing in morality and intelligence, nor in diagnosticity for these dimensions. These neutral behavioral descriptions made it possible to test negativity effects, by serving as comparisons for targets described by moral, immoral, intelligent, or unintelligent behavior. The behaviors are listed in the Appendix.

Participants were shown one of these behaviors per target person. For every new target, the behavioral description appeared on the screen, preceded by the message 'You are now paired with a person who displayed the following behavior last week'. The behavioral description remained on the screen while the participants were asked to rate their global impression of the target, and to indicate their expectations, confidence in expectations, and own cooperation. Participants were paired with 17 targets: 3 persons described by a moral behavior, 3 by an immoral behavior, 3 by an intelligent behavior, 3 by an unintelligent behavior, and 5 by a neutral behavior. An additional neutral target, presented first, served as a practice trial and was excluded from the analyses. The order in which participants were paired with these 17 targets was randomized separately for each participant.

We took several measures to minimize the possibility that specific characteristics of the behaviors would influence the results. First, we included relatively more neutral behaviors because these were not domain-specific, and therefore more of them were needed in order to form a representative sample of possible behaviors not related to morality or intelligence. Also, we employed two distinct sets of 17 targets; that is, we had selected 34 behaviors in total, and varied Target Set as a between-participants variable. Furthermore, we systematically varied target gender. Counterbalanced with other variations, half of the targets were male in one version, and female in the other version, and vice versa. Preliminary analyses showed no consistent pattern of effects including gender of participants, target set, or target gender version. Hence, these variables will not be further discussed.

Free recall task Finally, after a filler task, participants were asked to write down all behavioral descriptions they could remember on a sheet of paper, in words as close as possible to the original formulation. They were asked to spend at least 5 and at most 8 minutes completing this task. The coding of the recalled behaviors was not difficult, because the participants' wording of the recalled behaviors was generally very similar to the original wording. Accordingly, we did not obtain interrater-reliability; one observer just counted the number of behaviors recalled (for similar procedures, see Liebrand, Messick, & Wolters, 1986; cf. Srull, 1981).

Dependent Measures

Participants were asked how many points—none, one, two, three, or four—they expected a target to give to them in the social dilemma task (expected cooperation), how confident they were about this expectation (−2 = not at all confident, +2 = very confident), and how many points—none, one, two, three, or four—they gave to the target (own cooperation). Also, they rated their global impression of the target on a 5-point scale (−2 = very negative, +2 = very positive). Finally, the number of moral,

immoral, intelligent, unintelligent, and neutral behavioral descriptions recalled were counted.

Results and Discussion

For all dependent measures except the recall data, mean scores were computed across the moral, the immoral, the intelligent, the unintelligent, and the neutral targets. The unit of analysis for the recall data was the proportion of correctly recalled behaviors per category. These data were subjected to analyses of variance with target as a 5-level within-participant variable. The results of these analyses are displayed in Table 1, together with the mean scores for the five target types on the dependent measures and the results of *post-hoc* contrast tests. As can be seen, the main effect of Target was highly significant for all dependent measures. Further, we see that for both morality and intelligence information, targets described by positive behavior generally elicited more favourable impressions, and made participants expect and display greater levels of cooperation than targets described by negative behavior. The only exception was that targets' intelligence did not affect expected cooperation. Also, participants expressed more confidence in expectations based on morality or intelligence information rather than neutral information; moreover, moral and immoral behaviors were recalled better than neutral behaviors. Intelligent and unintelligent behaviors were recalled relatively poorly. (Results for the difference between expected and own cooperation will be discussed below.) But were morality effects significantly more pronounced than intelligence effects, as was predicted? And did negative information have more impact than positive information? These questions were addressed by computing a priori contrasts,[4] setting alpha at 0.01 to avoid capitalization on chance effects.

The Importance of Morality

The morality-importance hypothesis stated that the importance of morality over intelligence information would be manifested in two ways. First, morality information would have a greater impact on global impressions, and expected and own cooperation than intelligence information. Second, morality information would lead to more confidence in expectations and better recall than intelligence information.

For global impressions, expected cooperation, and own cooperation, we contrasted the difference between moral and immoral targets against the difference between intelligent and unintelligent targets. For all three dependent variables, we found stronger effects for morality than for intelligence. First, both morality and intelligence information affected global impressions (relative to neutral information, see Table 1), but the difference between moral and immoral targets (a mean difference of 2.74) was more pronounced than the difference between intelligent and unintelligent targets (a mean difference of 1.24; $t[124] = 17.01$, $p < 0.0001$). Second, as can be seen in Table 1, intelligence did not affect levels of expected cooperation. Clearly, then, the

[4]The negativity effect hypothesis was also tested by means of polynomial contrasts (i.e. by computing linear and quadratic trends). These analyses produced the same results as the analyses reported in the text.

Table 1. Results of analyses of variance with Target as a 5-level within-participant factor, together with the mean scores on the dependent measures for the five target types and the results of *post hoc* contrast tests

		Means per target type				
Dependent measure	Target F	Moral	Immoral	Intelligent	Unintelligent	Neutral
Global impression	392.38^{***}	1.32_{e}	-1.42_{a}	0.74_{d}	0.50_{b}	0.33_{c}
Expected cooperation	185.85^{***}	2.59_{c}	0.47_{a}	1.85_{b}	1.85_{b}	1.79_{b}
Own cooperation	103.89^{***}	2.34_{e}	0.42_{a}	1.79_{d}	1.22_{b}	1.63_{c}
Difference expected-own cooperation	14.63^{***}	0.25_{b}	0.05_{a}	0.05_{a}	0.63_{c}	0.16_{b}
Confidence in expectations	26.06^{***}	0.56_{c}	0.62_{c}	0.26_{b}	0.21_{b}	-0.02_{a}
Proportion of recalled behaviors	48.17^{***}	0.68_{c}	0.74_{c}	0.42_{ab}	0.37_{a}	0.49_{b}

Note: Global impressions and confidence ratings were made on 5-point scales ranging from -2 to $+2$; higher scores indicate more positive ratings. Expected and own cooperation (and the difference between them) are in points, with a minimum of 0 and a maximum of 4. Proportion of recalled behaviors were computed for each target category separately. All df = 4,121, except for confidence ratings df = 4,120. Means in the same row that do not share subscripts differ at $p < 0.05$.
$^{***}p < 0.0001$.

difference between moral and immoral targets (a mean difference of 2.12) was more pronounced than the difference between intelligent and unintelligent targets (a mean difference of 0.00; $t[124] = 17.99$, $p < 0.0001$). And finally, both morality and intelligence information affected own cooperation (see Table 1), but again, the difference between moral and immoral targets (a mean difference of 1.92) was more pronounced than the difference between intelligent and unintelligent targets (a mean difference of 0.58; $t[124] = 12.97$, $p < 0.0001$).

For confidence in expectations and for the recall data, we contrasted morality-informative targets (i.e. moral and immoral targets combined) against intelligence-informative targets. Results again supported the morality-importance hypothesis. First, although both morality and intelligence information led participants to express greater confidence than neutral information (see Table 1), this effect was more pronounced for morality than for intelligence. Participants expressed more confidence in expectations based on morality information (a mean difference of 0.58), than on intelligence information (a mean difference of 0.23; $t[123] = 8.21$, $p < 0.0001$). Second, there was a clear recall advantage for morality information: Morality information was recalled better (a mean difference of 0.71) than intelligence information (a mean difference of 0.40; $t[123] = 12.54$, $p < 0.0001$). As can be seen in Table 1, morality information was recalled better than neutral information, whereas this was not the case for intelligence information (see Table 1). In fact, recall of intelligence information was at about the same level as recall of neutral information.

Tests of Evaluative Asymmetries

Morality effects The negativity effect hypothesis stated that differences between targets described by immoral versus neutral behavior would be more pronounced

than differences between targets described by moral versus neutral behavior, for global impressions, expected cooperation, and own cooperation. This hypothesis received strong support. For global impressions, the absolute difference between immoral and neutral targets (a mean difference of 1.74) was more pronounced than the absolute difference between moral and neutral targets (a mean difference of 1.00; $t[124] = 9.55$, $p < 0.0001$). Also, for expected cooperation, the absolute difference between immoral and neutral targets (a mean difference of 1.32) was more pronounced than the absolute difference between moral and neutral targets (a mean difference of 0.80; $t[124] = 5.98$, $p < 0.0001$). And finally, for own cooperation, the absolute difference between immoral and neutral targets (a mean difference of 1.21) was more pronounced than the absolute difference between moral and neutral targets (a mean difference of 0.71; $t[124] = 5.94$, $p < 0.0001$). As can be seen in Table 1, no negativity effects for morality were found for confidence in expectations or for recall of behaviors. Immoral information did not lead to more confidence than moral information, and immoral behaviors were not recalled better than moral behaviors.

Intelligence effects We investigated possible negativity or positivity effects for intelligence in an exploratory way. Negativity effects for intelligence were found on global impressions and own cooperation. For impressions, the absolute difference between unintelligent and neutral targets (a mean difference of 0.83) was more pronounced than the absolute difference between intelligent and neutral targets (a mean difference of 0.41; $t[124] = 6.43$, $p < 0.0001$). For own cooperation, the absolute difference between unintelligent and neutral targets (a mean difference of 0.41) was also more pronounced than the absolute difference between intelligent and neutral targets (a mean difference of 0.17; $t[124] = 3.00$, $p < 0.003$). Because intelligence did not affect expected cooperation, differences between unintelligent and neutral, and intelligent and neutral targets did not differ (mean differences of 0.05 and 0.06, respectively; $t = 0.03$, n.s.). As can be seen in Table 1, there were no evaluative asymmetries for intelligence in confidence ratings or recall: Intelligent and unintelligent information led to similar levels of confidence, and similar levels of recall.

Differences between Expected and Own Cooperation

An interesting additional finding was that participants overall expected more cooperation than they were willing to display themselves (see Table 1; $F[1,124] = 35.34$, $p < 0.0001$). To investigate whether this tendency was stronger for some targets than for others, we analyzed the differences between expected and own cooperation (*relative benefit*). As can be seen in Table 1, relative benefit was largest for unintelligent targets, somewhat smaller for moral and neutral targets, and smallest for immoral and intelligent targets. These results suggest, first, a tendency for participants to take advantage of unintelligent targets relative to all other targets, and second, a tendency to take advantage of moral and neutral targets relative to intelligent and immoral targets. The small difference between expected and own cooperation for immoral targets could be due to a floor effect. Participants expected so little cooperation from these targets that they could hardly be less cooperative themselves. However, the large relative benefit for unintelligent targets cannot be explained by a floor effect.

STUDY 2

The results of Study 1 support both the morality-importance and the negativity effects hypotheses. First, morality information had stronger overall effects on global impressions, expectations of other's cooperation, and own cooperation, and led to greater confidence in expectations and better recall than intelligence information. Intelligence behaviors were recalled poorly, suggesting that intelligence information was not processed very thoroughly. Also, intelligence information did not affect levels of expected cooperation. However, we did find higher confidence ratings for intelligence information than for neutral information, suggesting that participants found intelligence information—to some extent—useful in deriving expectations. Second, we found negativity effects for morality information on global impressions and cooperation expected and displayed. Unlike previous research, we also found negativity effects for intelligence on global impressions and own cooperation. Finally, participants overall expected more cooperation than they were willing to display themselves. Interestingly, this tendency to increase relative benefit was especially strong for unintelligent and for moral (and neutral) targets. This seems to suggest that, at least in this single-interaction context, participants tended to take advantage of these types of targets.

We conducted a second study to further investigate the morality-importance and negativity effect hypotheses and the findings pertaining to relative benefit. An important modification in comparison with the first study was that in this second study, we provided participants with information about both morality and intelligence of target persons. In most impression formation studies (and in our first study), the information participants receive about a target person generally pertains to only one dimension. However, in everyday life situations, people often have information about more than one attribute of a person. Besides being more realistic, the design of the second study also enabled us to explore the conjoint effects of morality and intelligence.

Method

Overview

The procedure was essentially the same as in Study l. First, we explained the social dilemma task and checked participants' comprehension. Again, participants could consult a table containing the 5×5 payoff matrix throughout the experiment. Participants engaged in the task with targets described by two behaviors, one either high, neutral, or low in morality, and the other either high, neutral, or low in intelligence, allowing for nine different target types. After a filler task, an unexpected free recall task of the behavioral descriptions was administered. Again, the experiment was run self-paced on personal computers in individual cubicles. The same dependent variables were used as in Study 1.

Participants and Design

A total of 164 students at the Free University of Amsterdam (99 female, 65 male), recruited by means of an advertisement in the university newspaper, participated in

this study. They were paid for participation. The within-participants design included morality of other (moral versus morality-neutral versus immoral) and intelligence of other (intelligent versus intelligence-neutral unintelligent) as within-participant factors.

Procedure

Study 2 employed the same procedure as Study l, except that participants received two behavioral items per target person instead of one. The same behavioral descriptions were used as in Study 1. Morality behaviors were combined with intelligence behaviors, producing targets of nine different types: moral/intelligent, moral/neutral, moral/unintelligent, neutral/intelligent, neutral/neutral, neutral/unintelligent, immoral/intelligent, immoral/neutral, and immoral/unintelligent. Participants were paired with 18 targets, two of each type, the order of which was randomized separately for each participant. Two additional neutral behaviors, selected from the pretest described in the method of Study 1, formed a practice target that was presented first in all versions and excluded from the analyses. Again, we attempted to diminish the possibility that specific characteristics of the behaviors would have unforeseen influences on the results. First, two different sets of targets were constructed by using each behavior in different cells of the design in two versions. For instance, in one version a moral behavior was combined with an intelligent behavior, whereas in the other version the same moral behavior was combined with an unintelligent or a neutral behavior. Also, target gender was again varied systematically. Counterbalanced with other variations, half of the targets were male in one version and female in another version, and vice versa.

The morality behavior and the intelligence behavior of a target person were presented on the same screen. Counterbalanced across other variations, for half of the participants, the morality behavior was displayed first; for the other half, the intelligence behavior was displayed first. Finally, as in Study 1, order (impression ratings first versus social dilemma first) was varied systematically. Preliminary analyses showed no consistent pattern of effects including order, gender of participants, target set, target gender version, or type of behavior displayed first. Hence, these variables will not be further discussed.

At the end of the experiment, participants were asked to write down all behaviors they could remember in words as close as possible to the original formulation. For this purpose, they received three sheets of paper containing a total of 21 blank boxes. They were asked to write down the two behaviors of the same person together in one box, giving each person his or her 'own box' (i.e. if they remembered only one behavior of a person, they should write only one behavior in that box). In doing so, we were able to investigate not only the type of behaviors that participants recalled but also the type of target person they recalled. Participants were told that there were more boxes than there had been persons, so that they would not be able to fill in all boxes. Participants spent at least 7 and maximally 14 minutes completing this task.

Dependent Measures

Dependent measures included expected and own cooperation (none through four points), the difference between these two, confidence in expectations ($-2 =$ very

unconfident, 2 = very confident), global impressions (−2 = very negative, 2 = very positive), the proportion of moral, immoral, intelligent, unintelligent, and neutral behaviors recalled, and the proportion of correctly recalled complete targets.

Results and Discussion

For all dependent measures, except for free recall of behaviors, we analyzed mean scores across the two targets per category. The means for the nine target types are displayed in Table 2, together with results of *post-hoc* contrast tests. For the recall data, the units of analysis were, first, the proportion of correctly recalled behaviors per behavior category, and second, the proportion of correctly recalled complete targets per target category. These data were subjected to analyses of variance with morality and intelligence as within-participant factors. The results of these analyses are displayed in Table 3,[5] together with the mean scores for all dependent measures across moral, morality-neutral, immoral, intelligent, intelligence-neutral, and unintelligent targets (which are more directly relevant to the hypotheses). As can be seen, the results are very similar to those of Study l. We found main effects for morality and intelligence on almost all dependent measures, the only exception again being that intelligence did not affect expectations. Again, targets described by positive behavior generally elicited more favourable impressions, and made participants expect and display greater levels of cooperation than targets described by negative behavior. Also, confidence ratings were higher for targets described by informative versus neutral behaviors, and morality information was recalled better than neutral and intelligence information. As in Study 1, we addressed the morality-importance and the negativity effect hypotheses by computing *a priori* contrasts, again setting alpha at 0.01 to avoid capitalization on chance effects.

The Importance of Morality

First, as predicted by the morality-importance hypothesis, differences between moral and immoral targets were more pronounced than differences between intelligent and unintelligent targets, for global impressions (mean differences of 2.08 versus 0.55; $t[163] = 24.37$, $p < 0.0001$), expected cooperation (mean differences of 1.74 versus

[5]As can be seen in Table 3, the analyses revealed significant interaction effects for global impressions, own cooperation, relative benefit and the proportion of target persons recalled. For global impressions and own cooperation, this interaction is probably due to the impact of negative morality information: For own cooperation, intelligence has a strong effect for morality-neutral targets, a weaker effect for moral targets, and no effect for immoral targets (see Table 2 for means). Global impressions show a similar pattern, albeit less pronounced. Apparently, the impact of morality information, especially if negative, attenuates intelligence effects. These findings are consistent with both the morality-importance and the negativity effect hypothesis.

For recall of target persons, the pattern of means shows that recall of immoral targets is large, except for unintelligent/immoral targets. This is consistent with behavioral-adaptive reasoning, as unintelligent targets probably imply no danger. Also, the pattern of means shows that morality-neutral/intelligence-neutral targets are recalled better than either morality-neutral/intelligent targets or morality-neutral/unintelligent targets, which is consistent with the results of Study 1.

Finally, the interaction pattern for the difference between expected and own cooperation shows that this relative benefit is largest by far for unintelligent targets as long as they are not immoral. This finding will be discussed further in the text.

Table 2. Means for all nine target types on the dependent measures

	Target type								
Dependent measure	Mor+ Int+	Mor± Int+	Mor− Int+	Mor+ Int±	Mor± Int±	Mor− Int±	Mor+ Int−	Mor± Int−	Mor− Int−
Global impression	1.28_{g}	0.70_{e}	-0.97_{b}	1.16_{f}	0.40_{d}	-0.95_{b}	0.67_{e}	-0.11_{c}	-1.22_{a}
Expected cooperation	2.44_{c}	1.80_{b}	0.75_{a}	2.43_{c}	1.86_{b}	0.74_{a}	2.58_{c}	1.80_{b}	0.74_{a}
Own cooperation	2.13_{e}	1.66_{c}	0.66_{a}	2.07_{de}	1.66_{c}	0.65_{a}	1.93_{d}	1.26_{b}	0.56_{a}
Difference exp-own cooperation	0.30_{b}	0.13_{a}	0.09_{a}	0.36_{b}	0.20_{ab}	0.09_{a}	0.65_{c}	0.55_{c}	0.18_{ab}
Confidence in expectations	0.59_{cd}	0.13_{ab}	0.70_{d}	0.48_{c}	0.09_{a}	0.63_{cd}	0.65_{d}	0.26_{b}	0.75_{d}
Proportion of recalled targets	0.15_{ab}	0.11_{ab}	0.24_{cd}	0.13_{ab}	0.26_{d}	0.26_{cd}	0.18_{bc}	0.15_{ab}	0.09_{a}

Note: Mor+ = moral; Mor± = neutral; Mor− = immoral; Int+ = intelligent; Int± = neutral; Int− = unintelligent. Global impressions and confidence ratings were made on 5-point scales ranging from −2 to +2; higher scores indicate more positive ratings. Expected and own cooperation (and the difference between them) are in points, with a minimum of 0 and a maximum of 4. Proportions of recalled target persons were computed for each target category separately. Means in the same row that do not share subscripts differ at $p < 0.01$.

0.05; $t[163] = 17.80$, $p < 0.0001$), and own cooperation (mean differences of 1.42 versus 0.24; $t[163] = 16.37$, $p < 0.0001$). Another way in which the importance of morality was revealed is in the comparison of the two evaluatively ambiguous targets, that is, moral/unintelligent and immoral/intelligent targets (see Table 2). As can be seen, moral/unintelligent targets are consistently evaluated and approached more favourably than immoral/intelligent targets. As both targets are described positively on one dimension and negatively on the other, it is clear that the evaluative meaning of the morality information determines most strongly how the target is evaluated and approached.

Second, participants overall expressed greater confidence in expectations if morality information was present (all targets except morality-neutral targets) than if intelligence information was present (all targets except intelligence-neutral targets); means were 0.63 versus 0.50 $t[162] = 8.33$, $p < 0.0001$). Furthermore, morality behaviors were recalled better than intelligence behaviors (mean proportions were 0.53 versus 0.38; $t[161] = 11.03$, $p < 0.0001$). Also, complete targets (i.e. joint recall of both behaviors of a target) were recalled better if morality information about them was present than if intelligence information about them was present (mean proportions were 0.18 versus 0.15; $t[161] = 4.11$, $p < 0.0001$). These results provide strong support for the morality-importance hypothesis.

Evaluative Asymmetries

Morality effects As in Study 1, the negativity effect hypothesis received strong support. Differences between targets described by immoral versus neutral behavior were greater than differences between targets described by moral versus neutral behavior, for global impressions (mean differences were 1.38 and 0.71, respectively; $t[163] = 12.09$, $p < 0.0001$), expected cooperation (mean differences of 1.07 versus

Table 3. Results of 3 (Morality) $\times$3 (Intelligence) analyses of variance, and means on the dependent measures computed across moral, morality-neutral, immoral, intelligent, intelligence-neutral, and unintelligent targets

	F			Targets varying in Morality			Targets varying in Intelligence		
Dependent measure	Morality[a]	Intelligence[a]	Morality $\times$ Intelligence[b]	Moral	Morality-neutral	Immoral	Intelligent	Intelligence-neutral	Unintelligent
Global impression	680.55***	131.02***	17.36***	1.04_c	0.33_b	-1.04_a	0.34_c	0.21_b	-0.22_a
Expected cooperation	314.09***	<1	1.83	2.48_c	1.82_b	0.74_a	1.66_a	1.68_a	1.71_a
Own cooperation	198.55***	22.72***	4.85**	2.05_c	1.53_b	0.63_a	1.49_b	1.46_b	1.25_a
Difference expected own cooperation	17.29***	22.02***	4.83**	0.44_c	0.29_b	0.12_a	0.17_a	0.22_a	0.46_b
Confidence in expectations	80.21***	9.19***	<1	0.57_b	0.16_a	0.69_b	0.47_{ab}	0.40_a	0.55_b
Proportion of recalled behaviors[c]	51.93***	6.14**	N.A.	0.51_b	0.37_a	0.55_b	0.41_b	0.37_{ab}	0.34_a
Proportion of recalled target persons	4.70*	14.93***	14.92***	0.15_a	0.17_{ab}	0.20_b	0.17_a	0.22_b	0.14_a

Note: Global impressions and confidence ratings were made on 5-point scales ranging from -2 to $+2$; higher scores indicate more positive ratings Expected and own cooperation (and the difference between them) are in points, with a minimum of 0 and a nd a maximum of 4. Proportions of recalled behaviors were computed for each behavior category separately; proportions of recalled target persons were computed for each target category separately. [a]df = 2,162. [b]df = 4,160. [c]separate ANOVAs per dimension, df = 2,160.

Due to missing values, degrees of freedom are based on $N = 163$ for confidence ratings and $N = 162$ for recall data.

Means in the same row and pertaining to the same dimension that do not share subscripts differ at least at $p < 0.05$.

*$p < 0.05$. **$p < 0.005$. ***$p < 0.0001$.

0.66; $t[163] = 6.52$, $p < 0.0001$), and own cooperation (mean differences of 0.90 versus 0.52; $t[163] = 6.41$, $p < 0.0001$).

Again, no negativity effects obtained on confidence ratings and recall of behaviors; however, we did find a negativity effect for recall of target persons. As can be seen in Table 3, participants did not express greater confidence in expectations based on immoral versus moral information, and they did not recall individual immoral behaviors better than moral behaviors. However, complete target persons were recalled better when they were immoral rather than moral.

Intelligence effects For intelligence, results were also similar to those obtained in Study 1. Negativity effects were found on global impressions and own cooperation. Differences between targets described by unintelligent versus neutral behavior were greater than differences between targets described by intelligent versus neutral behavior, for global impressions (mean differences were 0.42 versus 0.13; $t[163] = 6.65$, $p < 0.0001$), and own cooperation (mean differences were 0.21 versus 0.03; $t[163] = 3.30$, $p < 0.002$). Again, intelligence did not affect expected cooperation.

No evaluative asymmetries for intelligence were found on confidence ratings or on the proportion of correctly recalled target persons, but this time, we did find an asymmetry for recall of individual behaviors. Intelligent behaviors were recalled better than unintelligent behaviors (see Table 3).

The Difference between Expected and Own Cooperation

As in Study l, we explored whether the differences between the expected level of cooperation and the level of cooperation displayed varied with target type. Again, we found that participants expected more cooperation than they were willing to display themselves. As can be seen in Table 3, relative benefit was largest for moral targets relative to morality-neutral and immoral targets, and for unintelligent targets relative to intelligent and intelligence-neutral targets. Looking at the means in Table 2, it can be seen that relative benefit is by far largest for moral/unintelligent and for morality-neutral/unintelligent targets, suggesting that participants were inclined to increase their relative benefit most with those unintelligent targets who were not immoral. However, as in Study 1, the small relative benefit with immoral targets could result from a floor effect, for participants again expected so little cooperation from these targets that they could hardly be less cooperative themselves.

GENERAL DISCUSSION

The present research examined how we use evaluative person information pertaining to morality and intelligence in forming impressions of people, anticipating the cooperativeness of their behavior, and deciding how cooperatively we will behave ourselves. Two experiments supported hypotheses regarding the importance of morality information and the weight given to negative information. These results enhance our understanding of impression formation processes and their interactional consequences in a two-person mixed-motive interdependence situation (a social dilemma).

The Importance of Morality

Consistent with the morality-importance hypothesis, impressions, expectations of other's cooperation, and own cooperative behavior in a social dilemma are more strongly influenced by morality information than by intelligence information. In addition, people express greater confidence in expectations based on morality rather than intelligence information, suggesting that morality is more relevant to behavior in this situation. Finally, morality information is recalled better than intelligence information.

In the introduction, we discussed why morality may have such a prominent meaning in a mixed-motive interdependence situation. Morality information is informative of a person's good or bad intentions with respect to other people, and therefore useful for inferring whether we can trust this person to be cooperative and, hence, whether we can safely choose to be cooperative ourselves without being exploited. Intelligence information, on the other hand, is less indicative of the trustworthiness of another person. Indeed, we did not find intelligence to affect expectations—although we did find that intelligence information was considered more useful for deriving expectations of another's cooperation than neutral information (as reflected in greater confidence ratings). It may well be that most people thought it intelligent to cooperate in a mixed-motive situation, in order to get the best outcomes for all, whereas others considered it intelligent to try and get the best outcomes for self by taking a 'free ride'.

An important question is whether morality is *generally* more important in person impressions than intelligence. The greater recall of morality over intelligence information, for example, may be due to differences in attention, weighting, and processing caused by this particular interdependence choice task (the social dilemma). However, one might also argue that the recall advantage for morality information is not contingent to this particular context, but reflects a general tendency for people to be more interested in morality than intelligence. In fact, empirical evidence suggests that this might well be the case (cf. Wojciszke, 1994; Wojciszke, Bazinska, & Jaworski, in press). At the same time, this tendency most probably finds its origins in interaction situations. For example, many real-world social situations involve a choice between one's own good and collective considerations, and therefore, inferring whether or not you can trust a person to do what is best for all (and hence, for you) is of paramount importance. So, someone's social, other-profitable characteristics will almost always receive more attention and weight in a judgment of the person than self-profitable, competence-related characteristics, as the latter are of less hedonic relevance for the perceiver (see Wojciszke, 1994). (Exceptions, of course, are situations in which a competence-related judgment is expected.) Furthermore, socially evaluative information may have a broader meaning than intelligence information, such that, to a certain degree, the latter can be deduced from the former. People are more ready to conclude that a moral person is intelligent, or that an immoral person is unintelligent, than the opposite.[6] This is congruent with behavioral-adaptive reasoning. For

[6]We found additional support for this claim by asking 14 participants to rate the intelligence of a moral person and an immoral person, and to rate the morality of an intelligent and an unintelligent person, on 7-point scales. Intelligence inferences from morality information were more extreme than morality inferences from intelligence information (1.46 versus 1.21; 1 = scale midpoint, 4 = scale extreme; $t[13] = 2.19$, $p < 0.05$). Also, participants who indicated that they could not draw morality inferences from intelligence information (i.e. who chose the scale midpoint for the latter two questions) reported to be

example, people who display immoral behavior risk expulsion from the social group that could protect them (Stevens & Fiske, 1995). Also, immoral behavior is unlikely to result in superior long-term outcomes (e.g. Axelrod, 1984). So, in a sense, (im)moral behavior to some extent implies (un)intelligence.

Negativity Effects in an Interaction Context

The current research also revealed evidence in support of the negativity effect hypothesis. Impressions and cooperative behavior expected and displayed are more strongly influenced by negative than by positive morality information, compared with neutral information. The finding that these negativity effects for morality information extend to behavioral expectations and own behavior is congruent with the idea that attending to socially negative information is important from an interaction perspective, as claimed by motivational explanations for negativity effects (e.g. Peeters & Czapinski, 1990; cf. De Dreu *et al*., 1995). Attending to negative, 'dangerous' person characteristics like immorality is especially functional in an interdependence situation, where these characteristics can actually exert their detrimental effects.

We also found negativity effects for intelligence information on global impressions and own cooperative behavior, unlike previous research that demonstrated positivity effects in this domain (e.g. Reeder & Fulks, 1980; Skowronski & Carlston, 1987).[7] These negativity effects seem to have a different meaning. Although no differences in cooperation are expected from intelligent, intelligence-neutral, and unintelligent people, the latter are still evaluated extremely negatively and receive very little cooperation. The use people make of intelligence information is best discussed by looking at the differences between expected and own cooperation.

Taking More Advantage of Some People than of Others

A general finding was that people overall expect to receive more cooperation than they are willing to display, a tendency we have referred to as relative benefit. One might speculate that this tendency is fostered by the single-interaction nature of the current interdependence situation, as the other person will not be able to retaliate. Of course, we do not mean to conclude that people are always ready to deliberately and consciously take advantage of other people whenever possible. Probably, people would label their own behavior as cautious rather than exploitative, as one can never be sure of what the other does. However, it is striking that certain person characteristics

more confident about their answers than participants who did draw morality inferences from intelligence information (i.e. who did not choose the scale midpoint for these questions; 6.25 versus 4.75; 1 = very unconfident, 7 = very confident; $t[12] = 2.87$, $p < 0.05$).

[7]It might be argued that our method of using neutral, irrelevant information as a standard for comparison is more likely to produce negativity effects than a method that tests evaluative asymmetries against a zero scale point (for instance, if behavioral items, pretested to be equally extreme positive and negative on morality, are rated on a likability scale, e.g. Fiske, 1980; or if pretested items are combined and this new stimulus is rated as a whole, e.g. Coovert & Reeder, 1990), because neutral information tends to be perceived as somewhat positive compared to a zero scale point. However, this does not decrease the importance of our findings: compared with irrelevant, neutral information, negative information has more impact than positive information.

promote the tendency to increase one's relative benefit to the other. Also, it is worth noting that these effects were conjured up by only one or two descriptions of the behavior of a person.

As we have seen, relative to other targets, unintelligent targets elicited very little cooperation. This is consistent with other findings (Van Lange & Kuhlman, 1994; Van Lange & Semin-Goossens, 1998) showing that, when interdependent with unintelligent others, quite a few people try to obtain the best possible outcome for themselves, even if that means anticipating poor outcomes for the other. This finding cannot be accounted for by low levels of expected cooperation, as intelligence did not affect expectations. It is also not due to uncertainty of what an unintelligent person would do. In Study 2, we even found confidence ratings to be greater—albeit not significantly so—for unintelligent than for intelligent target persons. Similarly, relative benefit is large for moral targets, from whom high levels of cooperation were expected with relatively high confidence.

Instead, the tendency to increase relative benefit with unintelligent or moral people seems to suggest that these types of person information might be important partly from an opportunistic point of view, providing information about whether or not a person can be 'safely' taken advantage of. Just as personality information can inform us about the trustworthiness of someone ('can I trust this person?'), it can also be informative about someone's trustfulness ('will this person trust me?'). It may be that moral people are perceived as very trustful because of their faith in others and unintelligent people because of their innocence (see Deutsch, 1973, pp. 146–147). In addition, these people may be perceived as relatively powerless: Moral people are not expected to do bad, immoral things to others (cf. Reeder & Spores, 1986; Reeder & Coovert, 1983; Reeder, Pryor, & Wojciszke, 1992), and unintelligent people are probably not able to do so. Thus, unintelligent and moral people may be perceived as both cooperative and harmless, and therefore 'exploitable'. Clearly, these intriguing yet complex issues concerning the possible mechanisms underlying relative benefit—why people do not fully reciprocate levels of expected cooperation—deserve further empirical attention. In the meantime, it is interesting to note that, generally, motivational theories only stress the functionality of attending to possible negative consequences of environmental stimuli, including other persons. However, the ability to discern and pursue positive outcomes obviously has survival value too. Note that both tendencies are reflected in recall of the target persons: 'dangerous' intelligent/immoral or intelligence-neutral/immoral persons and 'exploitable' moral/unintelligent persons are recalled best.

Strengths and Limitations

Before closing, we should briefly outline strengths and limitations of the current research, as well as some issues for future research. One limitation is that we have employed the same single-trial social dilemma in both studies. This task represents only one type of interdependence context, and one in which the possible behavioral repertoire is rather limited (cf. Kelley, 1984; Rusbult & Van Lange, 1996). Indeed, it would be fruitful for future research to examine different interdependence situations, for instance in the form of iterated social dilemmas, or real-life interdependence situations. These could, for example, investigate patterns of interaction sequences, or

interaction situations that permit coordination between individuals. Nevertheless, social dilemma tasks form a useful point of departure for future research. First, they allow for studying 'conflict without tears' (Pruitt & Kimmel, 1977, p. 366). Second, abstractness of outcomes (points) and anonymity enable us to study basic motivations in an ethical manner. A social dilemma is an appropriate research tool for investigating these basic behavioral tendencies and social motivations. Ultimately, these basic motivations—the human dispositions to try to get the best and escape the worst—shape all of our behaviors, most importantly our interactions with other people.

ACKNOWLEDGEMENTS

Parts of this research were presented at the Sixth International Conference of Social Dilemmas (18–23 June 1995, Wassenaar, The Netherlands) and the Eleventh General meeting of the European Association of Experimental Social Psychology (13–17 July 1996, Gmunden, Austria).

The authors wish to thank Naomi Ellemers, Hans Knegtmans, Gün Semin, Jim Sherman, Roos Vonk, and two anonymous reviewers for their helpful comments on an earlier draft of this article.

REFERENCES

Apfelbaum, E. (1974). On conflicts and bargaining. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 7, pp. 103–156). New York: Academic Press.

Axelrod, R. (1984). *The evolution of cooperation*. New York: Basic Books.

Berscheid, E., Graziano, W., Monson, T., & Dermer, M. (1976). Outcome dependency: Attention, attribution, and attraction. *Journal of Personality and Social Psychology*, **34**, 978–989.

Bruner, J. S., & Tagiuri, R. (1954). The perception of people. In G. Lindzey (Ed.), *Handbook of social psychology* (Vol. 2). Cambridge, MA: Addison-Wesley.

Coovert, M. D., & Reeder, G. D. (1990). Negativity effects in impression formation: The role of unit formation and schematic expectations. *Journal of Experimental Social Psychology*, **26**, 49–62.

De Dreu, C. K. W., Yzerbyt, V. Y., & Leyens, J.-P. (1995). Dilution of stereotype-based cooperation in mixed-motive interdependence. *Journal of Experimental Social Psychology*, **31**, 575–593.

Deutsch, M. (1973). *The resolution of conflict*. London: Yale University Press.

Deutsch, M. (1982). Interdependence and psychological orientation. In V. Derlage & J. Grzelak (Eds), *Cooperation and helping behaviour* (pp. 15–42). New York: Academic Press.

Erber, R., & Fiske, S. T. (1984). Outcome dependency and attention to inconsistent information. *Journal of Personality and Social Psychology*, **47**, 709–726.

Fiske, S. T. (1980). Attention and weight in person perception: The impact of negative and extreme behavior. *Journal of Personality and Social Psychology*, **38**, 889–906.

Fiske, S. T. (1992). Thinking is for doing: Portraits of social cognition from daguerrotype to laserphoto. *Journal of Personality and Social Psychology*, **63**, 877–889.

Fiske, S. T., & Neuberg, S. L. (1990). A continuum of impression formation, from category-based to individuating processes: Influences of information and motivation on attention and interpretation. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol 23, pp. 1–74). San Diego, CA: Academic Press.

Heider, F. (1958). *The psychology of interpersonal relations*. New York: Wiley.
Jones, E. E., & Thibaut, J. W. (1958). Interaction goals as bases of inference in interpersonal perception. In R. Tagiuri & L. Petrullo (Eds), *Person perception and interpersonal behavior* (pp. 151–178). Stanford, CA: Stanford University Press.
Kanouse, D. E., & Hanson, L. R. (1972). Negativity in evaluations. In E. E. Jones, D. E. Kanouse, H. H. Kelley, R. E. Nisbett, S. Valins, & B. Weiner (Eds), *Attribution: perceiving the causes of behavior* (pp. 47–62). New York: General Learning Press.
Kelley, H. H. (1984). The theoretical description of interdependence by means of transition lists. *Journal of Personality and Social Psychology*, **47**, 956–982.
Liebrand, W. B. G., Messick, D. M., & Wolters, F. J. M. (1986). Why we are fairer than others: A cross-cultural replication and extension. *Journal of Experimental Social Psychology*, **22**, 590–604.
Neuberg, S. L., & Fiske, S. T. (1987). Motivational influences on impression formation: Outcome dependency, accuracy-driven attention, and individuating processes. *Journal of Personality and Social Psychology*, **53**, 431–444.
Peeters, G., & Czapinski, J. (1990). Positive-negative asymmetry in evaluations: The distinction between affective and informational negativity effects. In W. Stroebe & M. Hewstone (Eds), *European review of social psychology* (Vol. 1, pp. 33–60). New York: Wiley.
Pratto, F., & John, O. P. (1991). Automatic viligance: The attention-grabbing power of negative social information. *Journal of Personality and Social Psychology*, **61**, 380–391.
Pruitt, D. G., & Kimmel, M. J. (1977). Twenty years of experimental gaming: Critique, synthesis, and suggestions for the future. *Annual Review of Psychology*, **28**, 363–392.
Reeder, G. D., & Brewer, M. B. (1979). A schematic model of dispositional attribution in interpersonal perception. *Psychological Review*, **86**, 61–79.
Reeder, G. D., & Coovert, M. D. (1986). Revising an impression of morality. *Social Cognition*, **4**, 1–17.
Reeder, G. D., & Fulks, J. L. (1980). When actions speak louder than words: Implicational schemata and the attribution of ability. *Journal of Experimental Social Psychology*, **16**, 33–46.
Reeder, G. D., Pryor, J. B., & Wojciszke, B. (1992). Trait-behavior relations in social information processing. In G. R. Semin & K. Fiedler (Eds), *Language, interaction, and social cognition* (pp. 37–57). London: Sage.
Reeder, R. D., & Spores, J. M. (1983). The attribution of morality. *Journal of Personality and Social Psychology*, **44**, 736–745.
Rosenberg, S., Nelson, C., & Vivekananthan, P. S. (1968). A multidimensional approach to the structure of personality impressions. *Journal of Personality and Social Psychology*, **9**, 283–294.
Rusbult, C. E., & Van Lange, P. A. M. (1996). Interdependence processes. In. E. T. Higgins & A. W. Kruglanski (Eds), *Social psychology: Handbook of basic principles* (pp. 564–596). New York: Guilford Press.
Ruscher, J. B., & Fiske, S. T. (1990). Interpersonal competition can cause individuating impression formation. *Journal of Personality and Social Psychology*, **58**, 832–842.
Skowronski, J. J., & Carlston, D. E. (1987). Social judgment and social memory: The role of cue diagnosticity in negativity, positivity, and extremity biases. *Journal of Personality and Social Psychology*, **52**, 689–699.
Skowronski, J. J., & Carlston, D. E. (1989). Negativity and extremity biases in impression formation: A review of explanations. *Psychological Bulletin*, **105**, 131–142.
Srull, T. K. (1981). Person memory: Some tests of associative storage and retrieval models. *Journal of Experimental Social Psychology*, **7**, 440–462.
Stevens, L. E., & Fiske, S. T. (1995). Motivation and cognition in social life: A social survival perspective. *Social Cognition*, **13**, 189–214.
Taylor, S. E. (1991). Asymmetrical effects of positive and negative events: The mobilization-minimization hypothesis. *Psychological Bulletin*, **110**, 67–85.
Van Lange, P. A. M., & Kuhlman, D. M. (1994). Social value orientations and impressions of partner's honesty and intelligence: A test of the might versus morality effect. *Journal of Personality and Social Psychology*, **67**, 126–141.

Van Lange, P. A. M., & Liebrand, W. B. G. (1991a). The influence of other's morality and own social value orientation on cooperation in the Netherlands and the U.S.A. *International Journal of Psychology*, **26**, 429–449.
Van Lange, P. A. M., & Liebrand, W. B. G. (1991b). Social value orientation and intelligence: A test of the goal prescribes rationality principle. *European Journal of Social Psychology*, **21**, 273–292.
Van Lange, P. A. M., Liebrand, W. B. G., & Kuhlman, D. M. (1990). Causal attribution of choice behavior in three N-person prisoner's dilemmas. *Journal of Experimental Social Psychology*, **26**, 34–48.
Van Lange, P. A. M., & Semin-Goossens, A. (1998). The boundaries of reciprocal cooperation. *European Journal of Social Psychology*, **28**, 847–854.
Van Vugt, M., Van Lange, P. A. M., & Meertens, R. (1996). Commuting by car or public transportation? A social dilemma analysis of travel mode judgements. *European Journal of Social Psychology*, **26**, 373–395.
Vonk, R., & Van Knippenberg, A. (1994). The sovereignty of negative inferences: Suspicion of ulterior motives does not reduce the negativity effect. *Social Cognition*, **12**, 169–186.
Wojciszke, B. (1994). Multiple meanings of behavior: Construing actions in terms of competence or morality. *Journal of Personality and Social Psychology*, **67**, 222–232.
Wojciszke, B., Bazinska, R., & Jaworski, M. (in press). On the dominance of moral categories in impression formation. *Personality and Social Psychology Bulletin*.
Wojciszke, B., Brycz, H., & Borkenau, P. (1993). Effects of information content and evaluative extremity on positivity and negativity biases. *Journal of Personality and Social Psychology*, **64**, 327–335.

APPENDIX: THE BEHAVIORAL DESCRIPTIONS USED IN THE TWO STUDIES

Moral Behaviors

When his mother told him that his grandfather was ill, he got on his bicycle at once in order to pay him a visit.

When an old lady, who was a bad walker, entered the bus, he stood up immediately and asked her if she wanted to sit down.

When a friend, who was sad because her boyfriend had ended their relationship, called him up, he went to her straight away in order to cheer her up.

He spontaneously offered to do the shopping for his neighbour, who had the flu and could not go outside.

When his girlfriend made ready to do the dishes, he said that he would do them because she had already been very busy today.

When he found a purse with a lot of money in it, he took it back to the owner without hesitation.

Immoral Behaviors

When he saw that an old lady fell on the pavement, he quickly walked on before she could ask him if he would help her.

When dining out with his colleagues, he purposely chose something expensive from the menu, because they would split the check.

In the supermarket, he pushed a woman with a perambulator aside in order to get to the check–out before her.

When his neighbour had the flu and asked him to do some shopping for her, he lied, telling her that he was unable to do it because he had an appointment.

When he found a purse with a lot of money in it, he kept the money and threw away the purse.

When an old lady, who was a bad walker, entered the bus, he looked the other way so that he did not need to stand up.

Intelligent Behaviors

He had prepared himself so well for the job interview, that he could express himself without any difficulty.

In the classroom, he answered a question correctly to which no one else knew the answer.

He wrote a letter to the municipality that had exactly the right tone, and therefore he was granted a house rather quickly.

He solved a problem about which his friends had been thinking all day in less than 15 minutes.

He wrote such a good master's thesis, that he won a scholarship that enabled him to study abroad for a year.

When he saw that his direct supervisor was in a very bad mood, he decided to go and talk about a salary raise some other time.

Unintelligent Behaviors

He began to talk about a salary raise when it was clear that his employer was in a very bad mood.

When a business company asked him via his study advisor to work for them, he accepted the job without inquiring what kind of work it involved.

Although the bright light of the sun was troubling him very much, he left the shutters open, because he did not know how to close them.

Although he performed the written driving-test for the fourth time already, he failed again.

When it became clear that his first stack of tickets had not won him a prize, he bought another stack of two hundred lottery tickets.

When he heard somebody say that one did not have to study the first six chapters, he took this for granted and so he failed the exam.

Neutral Behaviors

Because the film he was watching was terribly dull, he fell asleep on the sofa.

After having doubted for a moment whether he would buy chipolata pudding or toffee-flavoured custard, he chose the custard.

When he discovered a hole in one of his socks while getting dressed, he took another pair from the wardrobe.

When he came home from work he first checked whether there was any mail, and then read the newspaper.

In August, he took three weeks off in order to go on a holiday.

He was more than an hour late for work, because his train was delayed due to an accident.

The first time he happened upon the new ten-guilders coin, he looked at it in surprise.

During lunch break he talked with a fellow student, who told him about a television program of the night before.

Because it was extremely busy in the tram during rush hour, he had to put up with a stand.

Because he had an adverse wind, it took him five minutes longer to get to work than usual.

After having watched the news, he checked whether there were any interesting programs on other channels.

Just before closing time, he quickly went to the supermarket to buy a carton of milk and a package of coffee.

